



Navy Review Board Safety Brief

21 March 2001



This Is a Readiness Issue



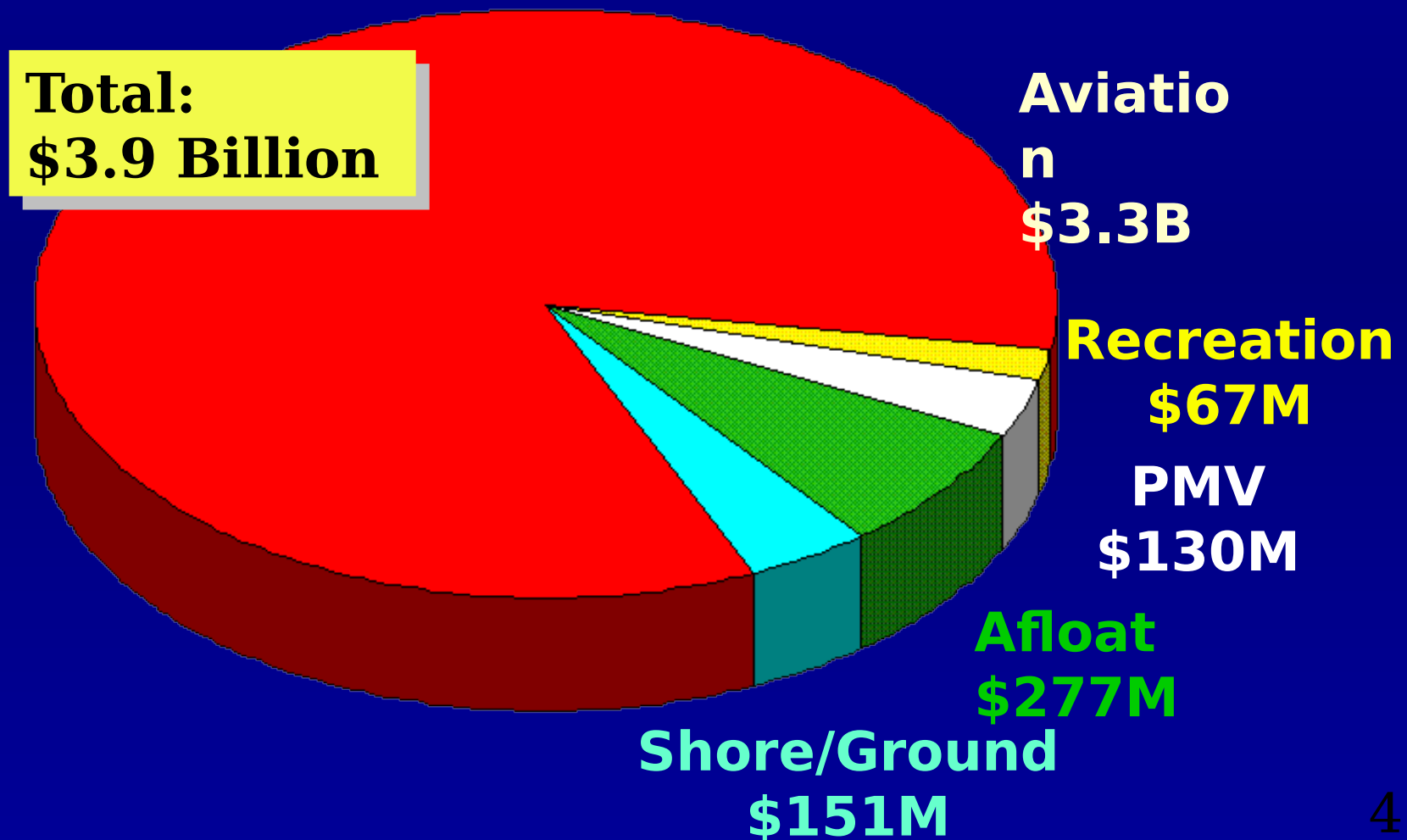
Too Many Deaths

1,024 Sailors and Marines - FY96-00

“Quality of Life + Quality of Work = Quality of Service”

Cost of Mishaps

Navy and Marine Corps, FY96-00



Corporate Energy Costs

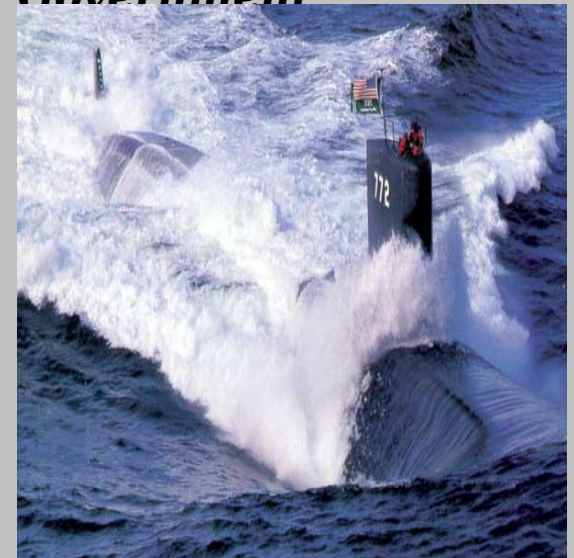
**Marines Ground
Osprey After Crash
Kills Crew of
Nineteen
Investigation
Ordered**



**F-14 Crashes Into
House
2 Crew, 3 Civilians
Killed**



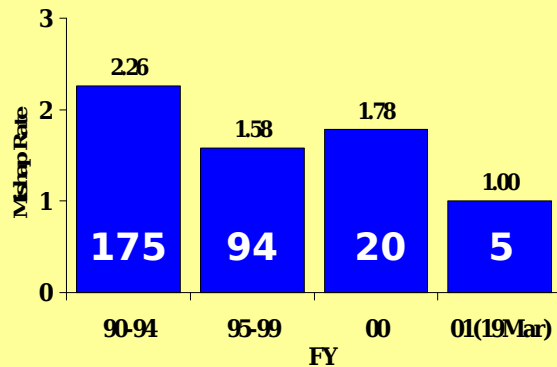
**American Sub Collides
With Japanese
Training Vessel
Vice CNO Apologizes
to Japanese
Government**



Mishap Rates

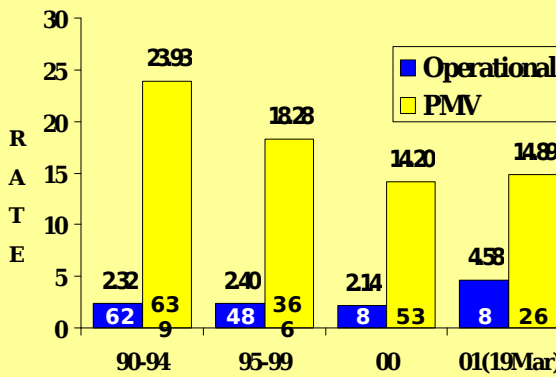
Flight Mishap Rate

Navy Class A Aviation Mishap Rate



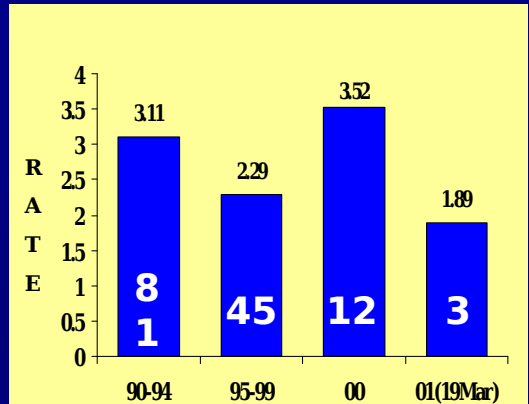
Shore Mishap Rate

Mishaps/PMV Fatalities



Afloat Mishap Rate

Class A Mishap Rate



FY 00 Navy Mishaps
15 Aircraft lost
19 Fatalities



Fatalities

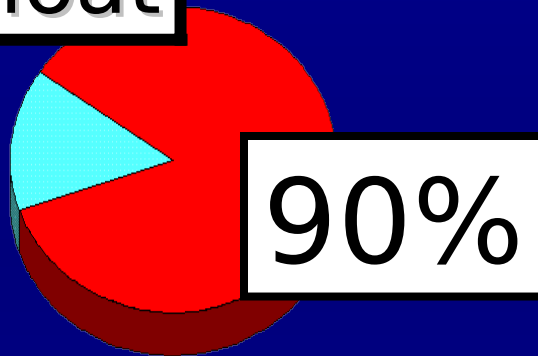
\$403 M

Navy Review Board Safety

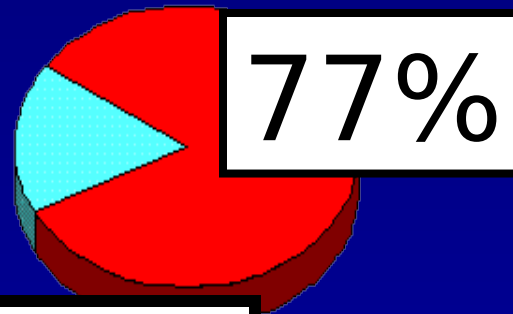
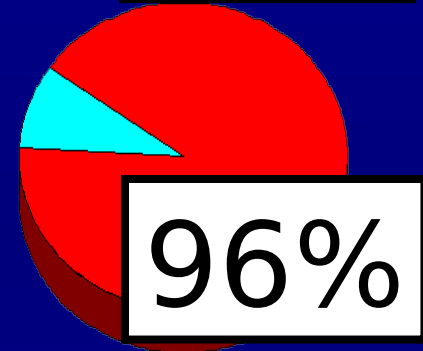
Human Error in Mishaps

FY96-00

Afloat



Shore



Aviation

Skill-Based Errors

Increasing

Skill-based Errors %
of Class-A Human-error Flight

Mishaps

USN/USMC TACAIR+HELO SBE %



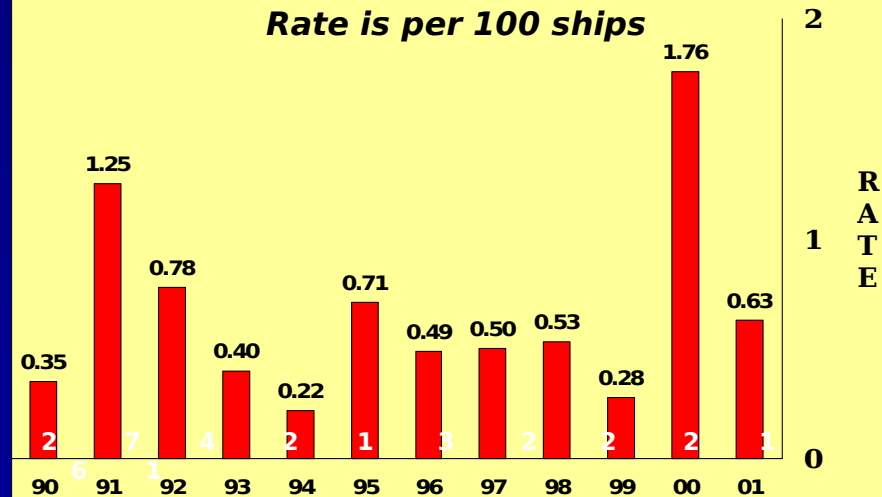
Fiscal Year



Class A Afloat Collisions / Groundings



Rate is per 100 ships




Fiscal Year

New Design Based Safety

Operational Tapestry

Investigations

- Poor airmanship/seamanship
- Skill-based error  late
- Poor crew coordination
- Poor headwork

CSA/MCAS/ Surveys/ Culture Workshops

- Inadequate resources
- Command over-committed
- Manning/Unavailable experience
- Cutting corners/PMS
- Poor communication
- Technical publications

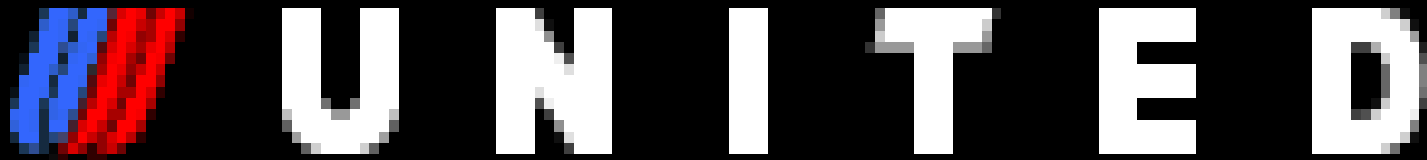
***Every five years mishaps
cost Navy and Marines \$3.9***



**LOST
IS
LOST**

***If we were a business, we would be out
of business!***

Industry and Safety

The logo for United, featuring a stylized globe icon with blue and red diagonal stripes to the left of the word "UNITED" in white, bold, sans-serif capital letters, all set against a black rectangular background.

Commercial Aviation

Mishaps

***\$945M
Annual***

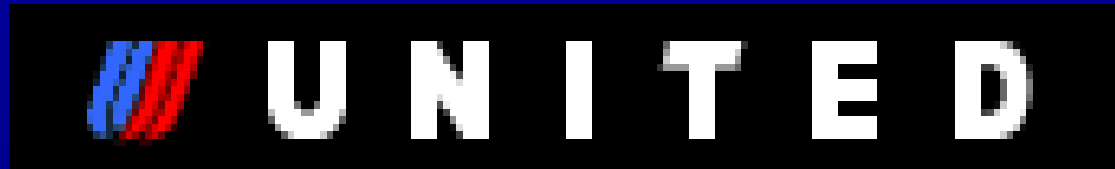
Direct Cost

***Cost
4X***

Indirect Cost

- Litigation
- Loss of Manpower
- Delay in Doing Business
- Corporate Reputation
- Investigation Costs
- Loss of Assets





PROBLEM:

- » 70% of Industry Mishaps Due to Flight Crew Error
- » 33% of Mishaps Operational Procedure Violated

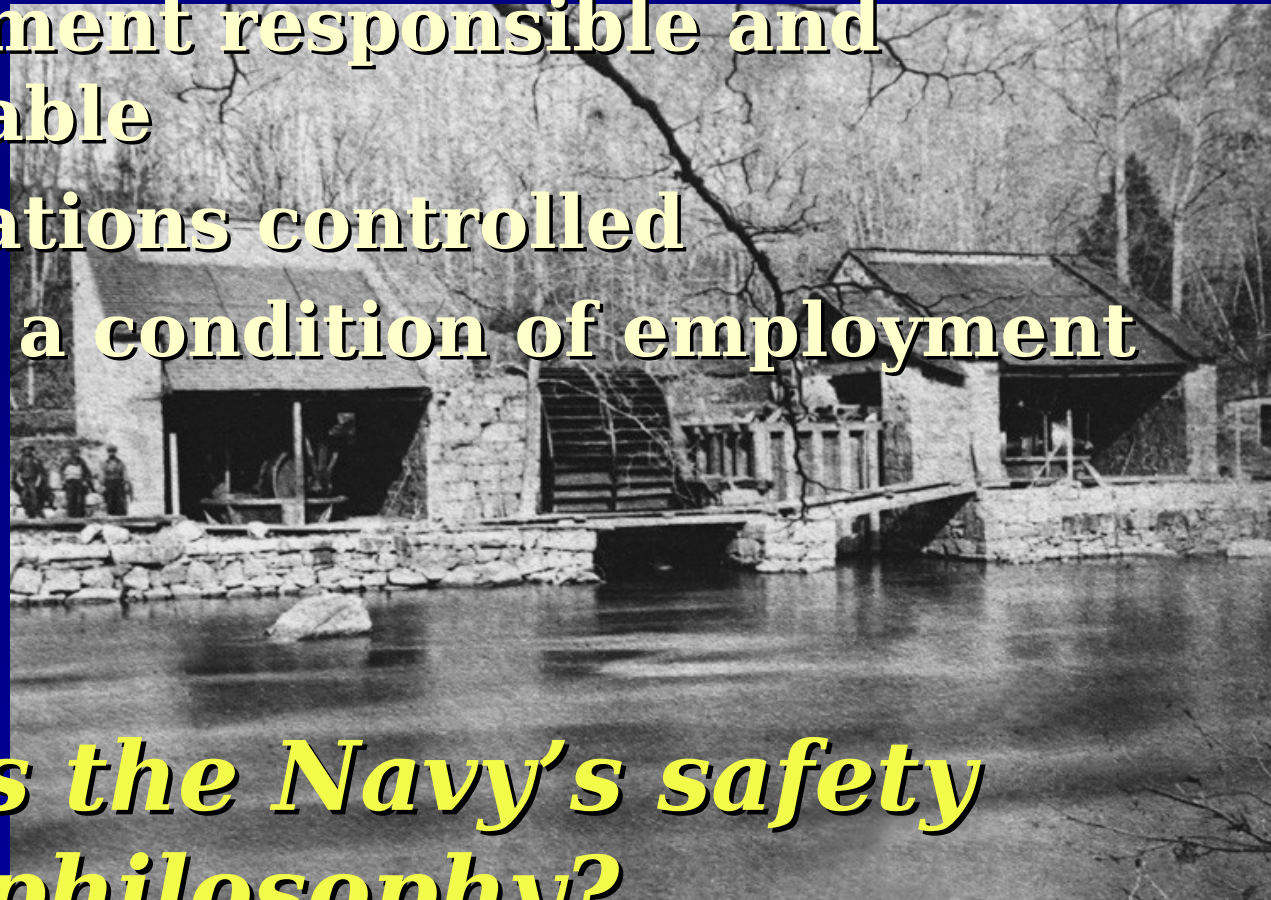
SOLUTION: *Flight Operations Quality Assurance (FOQA)*

- » Leadership Driven
- » Data Centric
- » Metric-Driven
- » Accepted by Operators (Union)
- » Now the Industry Standard

... Making a difference!

The DuPont Safety Philosophy

- All incidents preventable
- Management responsible and accountable
- All operations controlled
- Safety = a condition of employment



What is the Navy's safety philosophy?

DuPont's Safety Culture



DuPont vs. Industry

Cost of Injuries

<i>Industry</i>	<i>DuPont All Average</i>
<hr/>	
• 1999 Incidence Rate	0.12.1
• 1999 Disabling Injuries/Year	1002000
• Total Cost/Year	\$3.4M\$68M
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Naval Mishap Costs

Military

FY00 \$878M

Per Month \$73.2M

Per Week \$16.9M

Per Day \$2.4M

Civilian

1999 DON FECA:

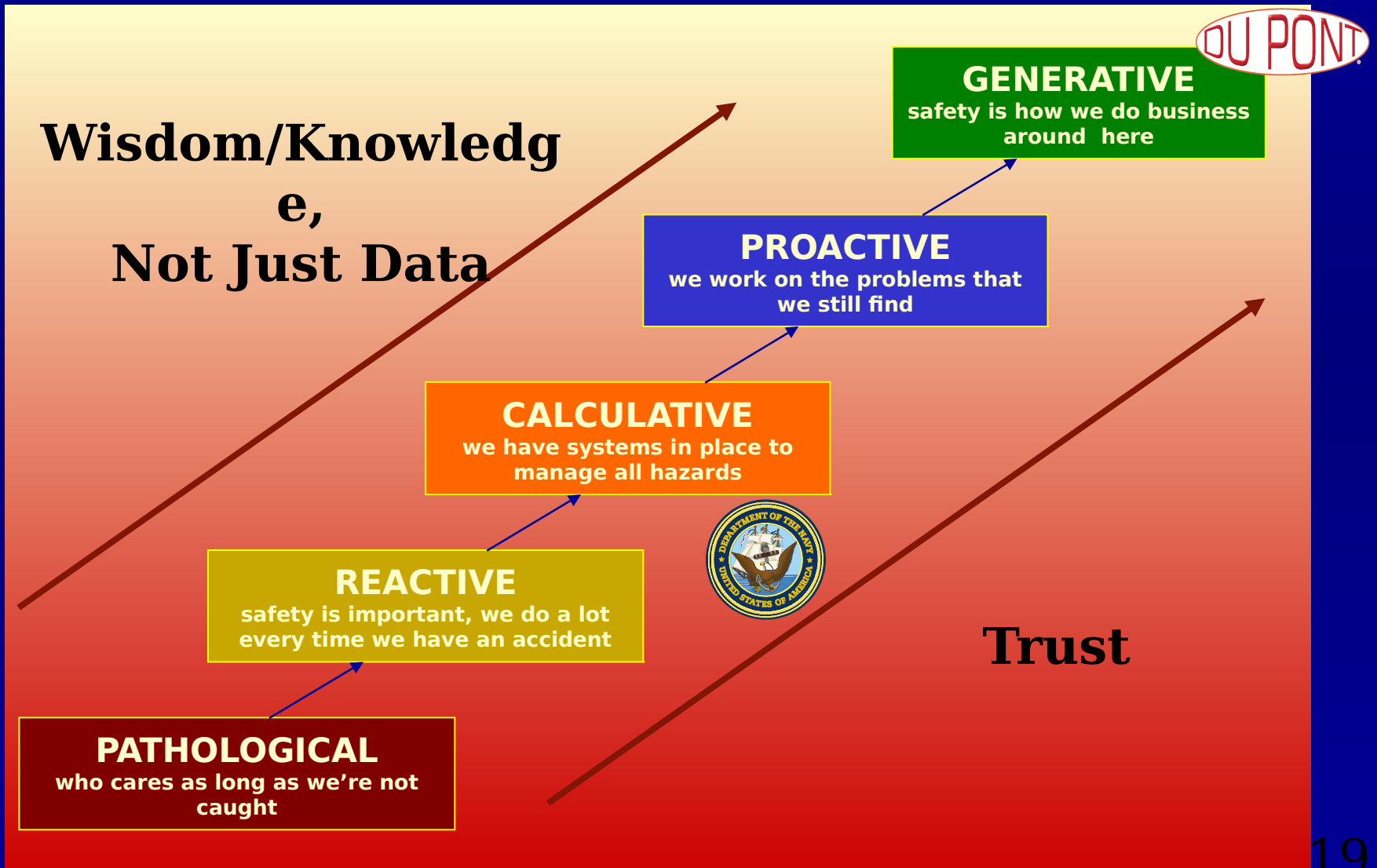
***Lost Work Injuries
4,822***

Total Costs \$221.6M

Safety = Best Business Practices

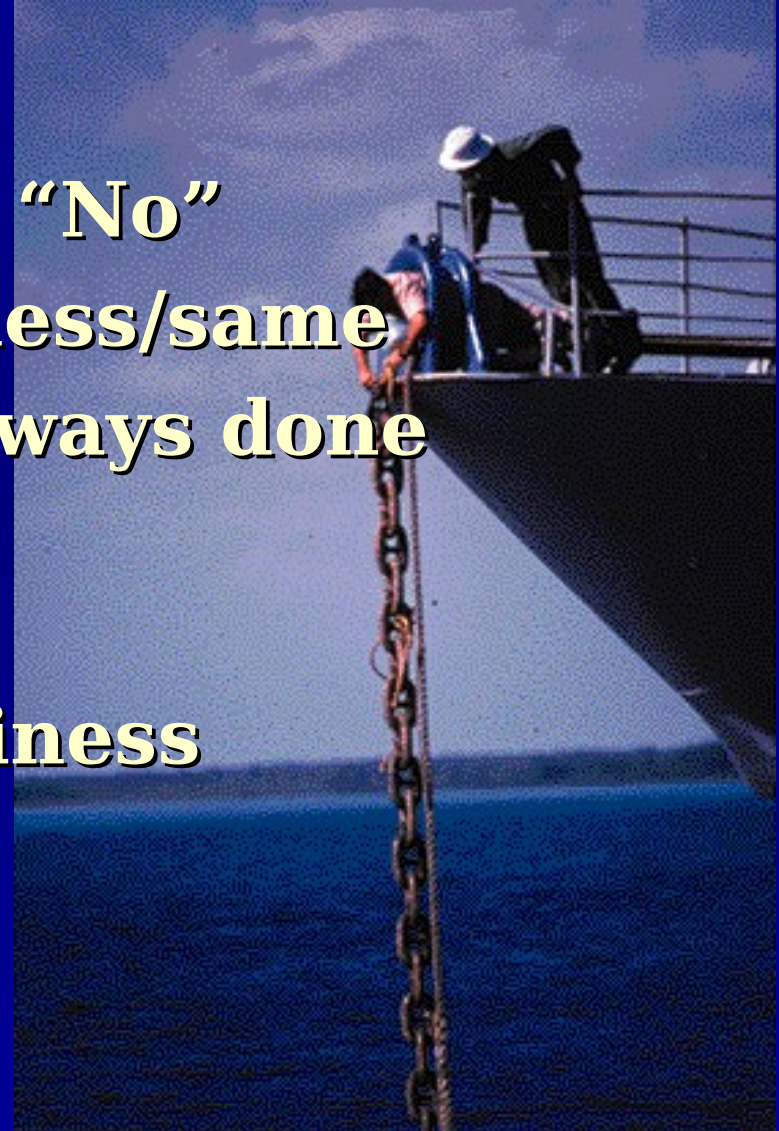
- **High-level Leadership Essential**
- **Values and Vision Clearly Articulated**
- **Requires Realignment of:**
 - ***Organizational Culture***
 - ***Organizational Processes***
 - ***Organizational Leadership***

Comparing Culture



Challenges of Naval Culture

- **Reluctance to say “No”**
- **Doing more with less/same**
- **“The way we’ve always done it”**
- **“Can do”**
- **Cost of doing business**



Realign Culture: ORM

- **Alignment Process**
- **Focus on People and Culture**
- **Uses Lessons Learned**
- **Evaluates Change**
- **Decisions at Right Level**

“Alignment Ensures the Organization Is In Balance.”

Aligning Process: Resources and Acquisition

- **Improve Safety Vision in Acquisition Process**
- **Resource Safety Technology**
- **Stable Training/Safety Budget**

Aligning (Leveraging) Process: Technology

- **Data Centric Systems**

- Aviation Flight Data
- Voyage Data
- Health Monitoring

- **Simulators**

- Aircraft, Ship
- Deployable

- **Aircraft Safety Systems**

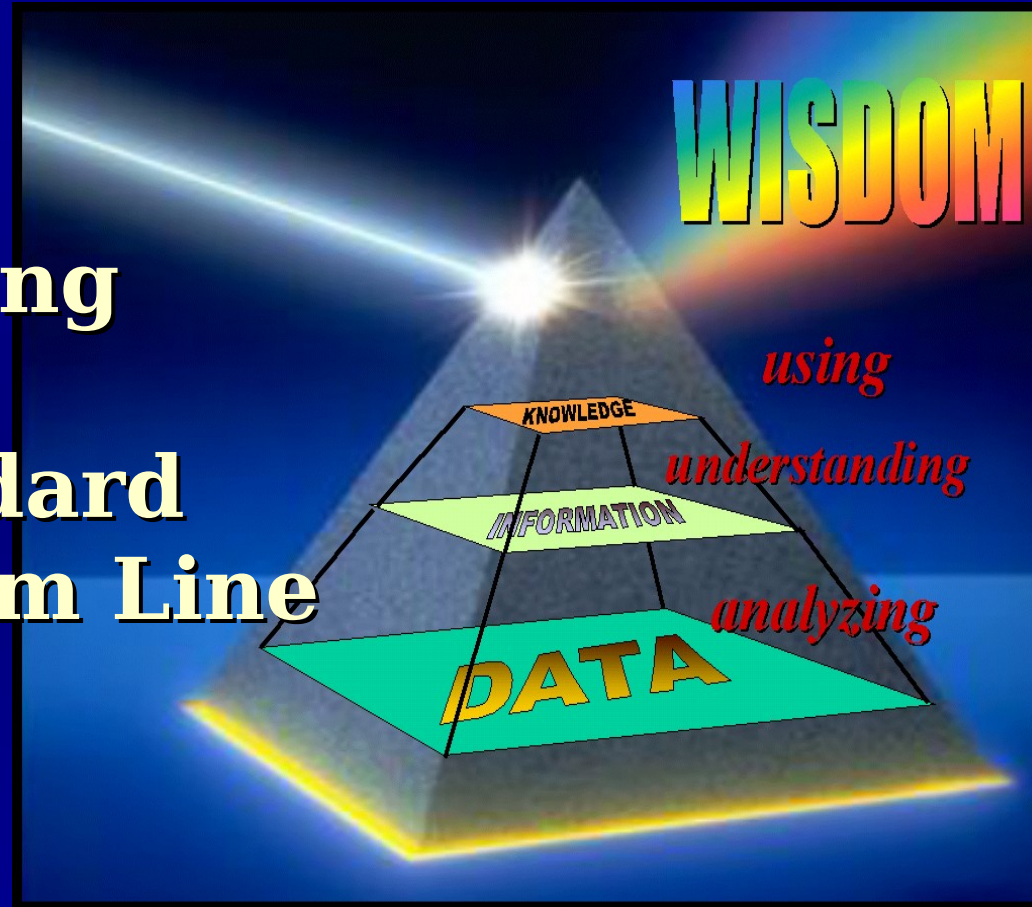
- Ground Proximity Warning
- Collision Avoidance

- **PPE**

- SCBAs, Hearing Protection
- Lifejackets

Data Centric Systems

- ⇒ **Modern Training**
- ⇒ **Real Metrics**
- ⇒ **Industry Standard**
- ⇒ **Impacts Bottom Line**



Aviation Flight Data System

Ops/Training

FOQA-M

Real-time Mission
Replay



1) Data collected during mission

Maintenance

IMDS

"O" Level Maint
Analysis



2) Data downloaded to common system

Mishaps

CSFIR

"Black Box"

NALCOMIS

Safety Center

3) Data to Support
the Warfighter

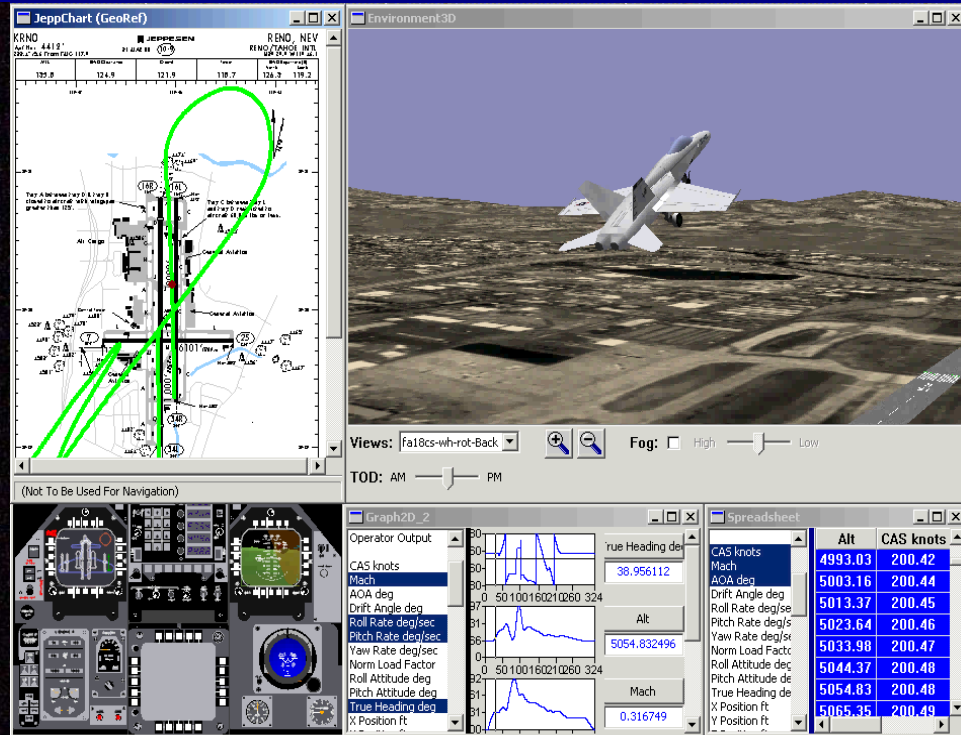
*O-level
Maintenance*

*Mission
Replay*

Visual Learning Continuum

Simulators

Debrief Animation



Simulate...Operate...Animate...

Aligning Leadership

- **Leadership Drives Culture**
- **Top-Down Approach**
- **Corporate Safety Vision/Philosophy**
- **Communicate Vision**
- **Accountability**
- **Safety Leadership Board**
- **Invest in Safety**

Alignment Gives You POWER To...

- **Stay Competitive**
 - **Create Shared Purpose**
 - **Grow Consistently**
 - **Achieve Peak Performance**
-

***... ensure our organizations, systems, and processes
are aligned and deliver a combat-capable
Navy ready to sail in harm's way.”
- Admiral Vern Clark, Chief of Naval Operations***



Questions?

